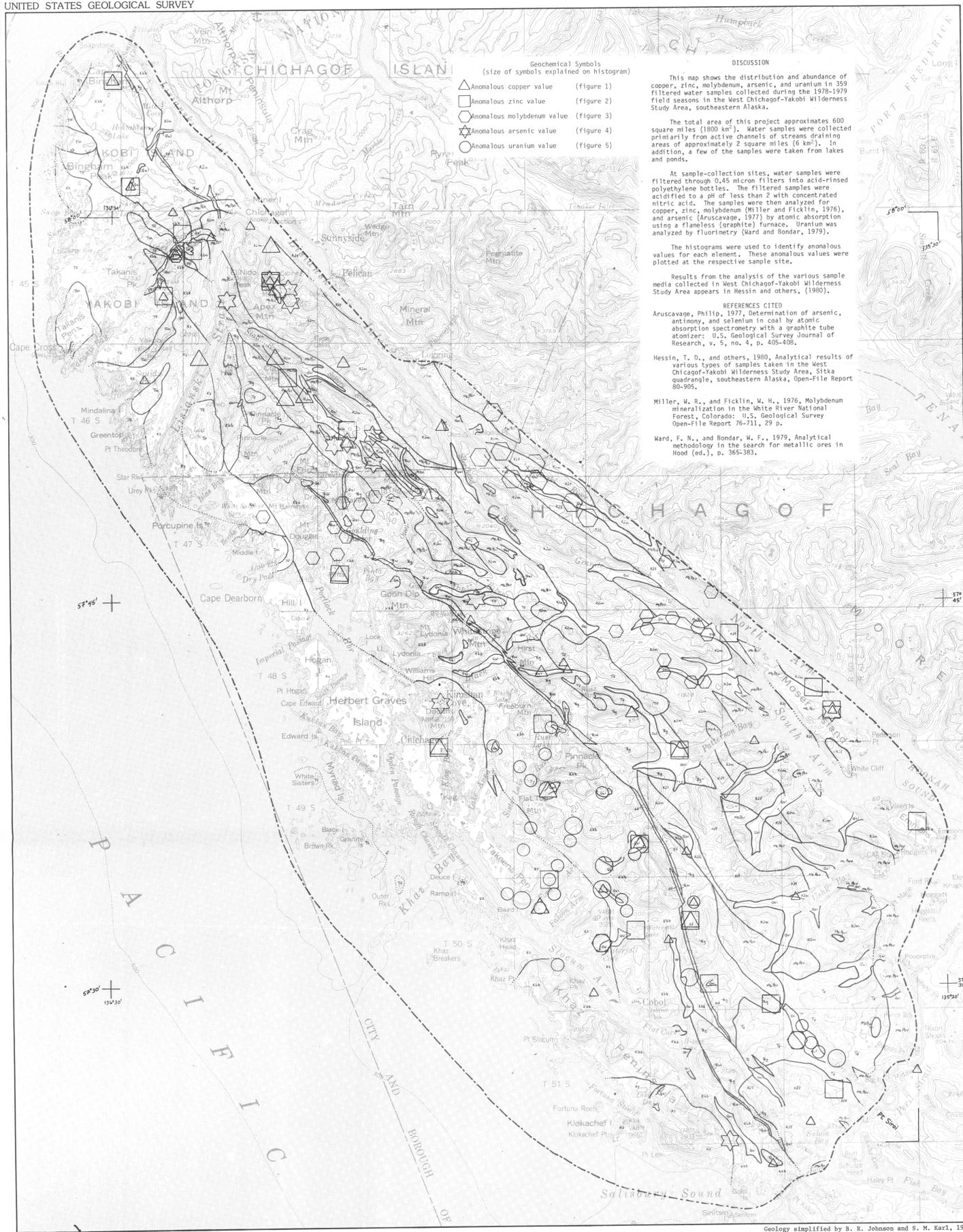


DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



DISCUSSION

This map shows the distribution and abundance of copper, zinc, molybdenum, arsenic, and uranium in 359 filtered water samples collected during the 1978-1979 field seasons in the West Chichagof-Yakobi Wilderness Study Area, southeastern Alaska.

The total area of this project approximates 600 square miles (1500 km²). Water samples were collected primarily from active channels of streams draining areas of approximately 2 square miles (6 km²). In addition, a few of the samples were taken from lakes and ponds.

At sample-collection sites, water samples were filtered through 0.45 micron filters into acid-rinsed polyethylene bottles. The filtered samples were acidified to a pH of less than 2 with concentrated nitric acid. The samples were then analyzed for copper, zinc, molybdenum (Miller and Ficklin, 1976), and arsenic (Aruscavage, 1977) by atomic absorption using a flameless (graphite) furnace. Uranium was analyzed by fluorimetry (Ward and Bondar, 1979).

The histograms were used to identify anomalous values for each element. These anomalous values were plotted at the respective sample site.

Results from the analysis of the various sample media collected in West Chichagof-Yakobi Wilderness Study Area are given in Hessin and others, (1980).

REFERENCES CITED

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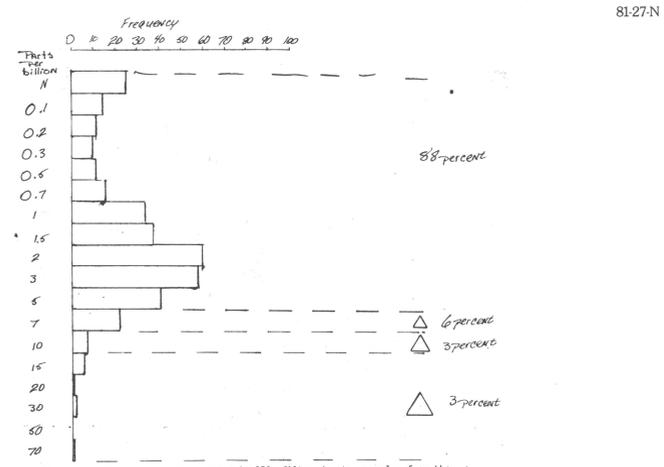


Figure 1.--Histogram showing copper in 359 filtered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by atomic absorption using the graphite furnace, (Miller and Ficklin, 1976). Triangles indicate anomalous concentrations and class percentages computed on total sample population.

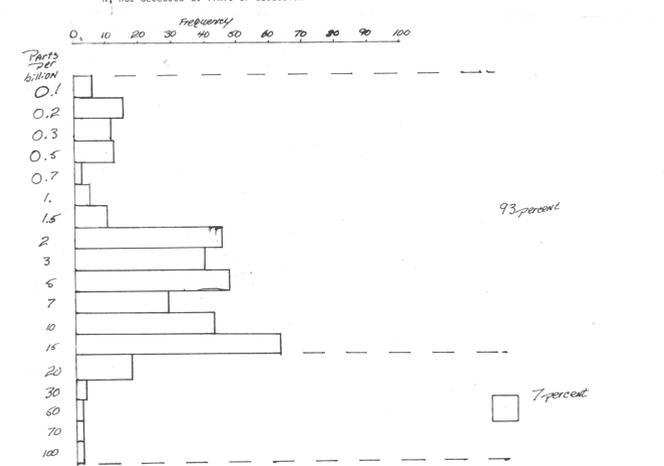


Figure 2.--Histogram showing zinc in 359 filtered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by atomic absorption using the graphite furnace, (Miller and Ficklin, 1976). The square indicates anomalous concentrations and class percentages computed on total sample population.

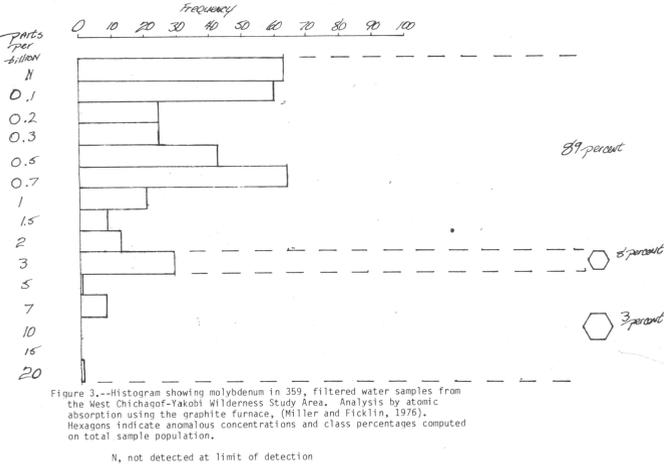


Figure 3.--Histogram showing molybdenum in 359 filtered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by atomic absorption using the graphite furnace, (Miller and Ficklin, 1976). Hexagons indicate anomalous concentrations and class percentages computed on total sample population.

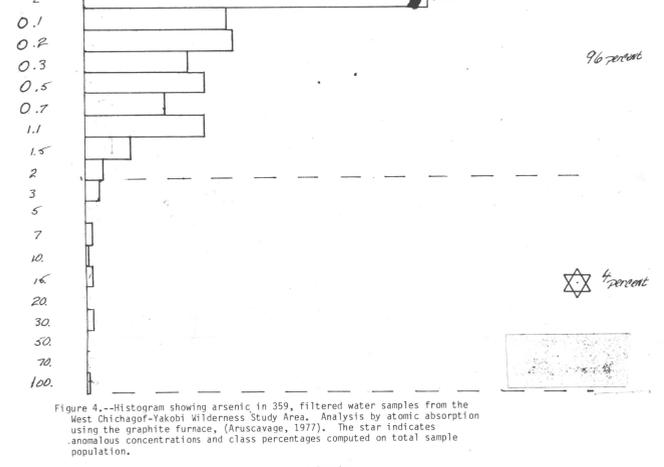


Figure 4.--Histogram showing arsenic in 359 filtered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by atomic absorption using the graphite furnace, (Aruscavage, 1977). The star indicates anomalous concentrations and class percentages computed on total sample population.

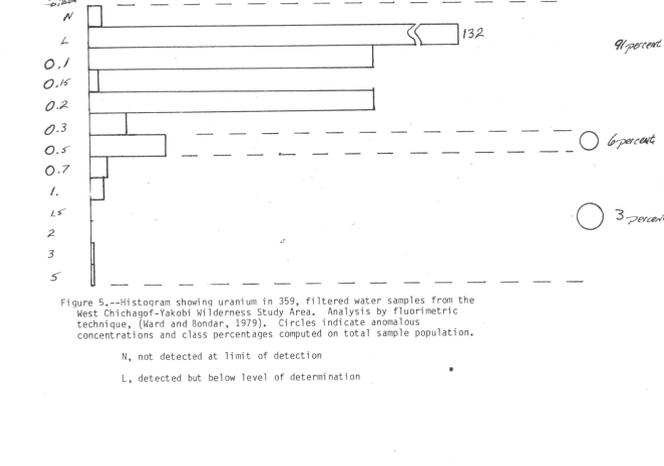


Figure 5.--Histogram showing uranium in 359 filtered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by fluorimetric technique, (Ward and Bondar, 1979). Circles indicate anomalous concentrations and class percentages computed on total sample population.

Base from U. S. Geological Survey 1:250,000, 1951
Slicka; H. Fairweather

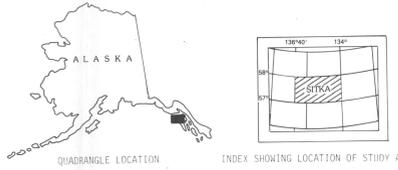


CORRELATION OF MAP UNITS

Qal	QUATERNARY
Tf	TERTIARY(?)
Kd	CRETACEOUS(?)
Kc	CRETACEOUS
Krb	CRETACEOUS AND JURASSIC
Kjf	CRETACEOUS(?)
Trv	TRIASSIC(?)
Trg	MESOZOIC AND PALEOZOIC(?)
MePvu	

Studies Related to Wilderness

The Wilderness Act (Public Law 88-577, Sept. 3, 1964) and related Acts require the U.S. Geological Survey to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the West Chichagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska.



LIST OF MAP UNITS

Qal	ALLUVIAL DEPOSITS--Undivided
Tf	FELSIC PLUTONIC ROCKS--Dominantly tonalitic
Tr	MAFIC PLUTONIC ROCKS--Dominantly gabbroic
Kd	DIORITE SILL--Extensively altered
Kc	SITKA GRANITIC
Krb	KELP BAY GROUP--Metasediments and metavolcanics
Kjf	FELSIC PLUTONIC ROCKS--Dominantly granodiorite
Kha	MAFIC PLUTONIC ROCKS--Dominantly quartz diorite, diorite, and gabbro
Trv	STRIPED MARBLE
Trg	COON DIP GREENSTONE
MePvu	UNDIVIDED METASEDIMENTARY--Metavolcanic and metaplutonic rocks

GEOCHEMICAL MAP SHOWING THE DISTRIBUTION AND ABUNDANCE OF COPPER, ZINC, MOLYBDENUM, ARSENIC, AND URANIUM IN FILTERED WATER SAMPLES IN THE WEST CHICHAGOF-YAKOBI WILDERNESS STUDY AREA, SITKA QUADRANGLE, SOUTHEASTERN ALASKA

By
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1981